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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,011	04/19/2004	John S. Starzynski	H0005810-4900	2497

7590 08/28/2006

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EXAMINER

DOUYON, LORNA M

ART UNIT PAPER NUMBER

1751

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/827,011	<b>Applicant(s)</b> STARZYNSKI, JOHN S.	
	<b>Examiner</b> Lorna M. Douyon	<b>Art Unit</b> 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/24/05</u> . | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Church et al. (US Patent No. 3,909,325), hereinafter “Church”.

Church teaches an etchant for polycrystalline silicon comprising potassium hydroxide and ethylene glycol and water wherein the potassium hydroxide is 8 to 50 percent by weight of the mixture, ethylene glycol is 10 to 92 percent of the mixture and the water comprises 0-45 percent of the mixture (see claim 1), and wherein the mixture is heated to a temperature of 70° to 85°C (see claim 2). Examples of polysilica etchant mixtures are as follows: Mixture B: 80 g KOH (equivalent to 7.2%), 1000cc ethylene glycol and 25 cc water; and Mixture D: 80g KOH, 500cc water and 50cc ethylene glycol (equivalent to 7.9%). The etchant mixture is prepared by mixing KOH pellets with DI water, allowing the mixture to cool at 70°C, adding ethylene glycol and stirring to obtain a good mix, and maintaining the temperature of the mixture to 75°C (see col. 3, lines 18-68). Church teaches the limitations of the instant claims. Hence, Church anticipates the claims.

3. Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Skee et al. (US Patent No. 5,989,353), hereinafter “Skee”.

Skee teaches cleaner compositions for microelectronics wafer substrate surfaces (see abstract) which comprises alkaline component, like tetramethyl ammonium hydroxide, in an amount of up to about 25% by weight of the composition, generally in an amount of from about 0.05 to about 10% by weight, alkane diol, like ethylene glycol, in an amount of up to about 50% by weight, generally in an amount from about 1% to about 45% by weight, and the water content of the cleaning formulations is always at least 40% by weight (see col. 6, lines 24-33, 41-43; col. 3, line 13, 52). One example of a preferred cleaning composition comprises an aqueous solution containing about 0.07% by weight tetramethylammonium hydroxide, about 2.5% by weight ammonium hydroxide, about 35% by weight of ethylene glycol or diethylene glycol and the remaining balance being made up of water (see col. 6, lines 56-63). In another example, Skee teaches a buffered alkaline solution D which was prepared by adding one part deionized water and one part ethylene glycol to one part of an aqueous alkaline solution concentrate containing 0.20 weight percent tetramethylammonium hydroxide, which is at 70°C during treatment (see Example 9, col. 11, lines 35-67). Skee teaches the limitations of the instant claims. Hence, Skee anticipates the claims.

4. Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Bailet et al (US Patent No. 4,137,123), hereinafter "Bailey".

Bailey teaches a surface etchant for silicon (see abstract) which comprises anisotropic etchants which include aqueous solution of alkali metal hydroxide or ammonium hydroxide which optionally contain a monohydric, dihydric or polyhydric alcohol, preferably a solution comprising 0 to 75% by volume ethylene glycol, 0.05 to 50% by weight potassium hydroxide,

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the balance being water (see col. 2, lines 3-11). In Example 1, Bailey teaches an etchant solution made by dissolving 7.0 g. of silicon in a solution of 500 ml H<sub>2</sub>O, 25 g. potassium hydroxide (about 4%) and 50 ml of ethylene glycol (about 8%) which was covered and heated to 80°C (see col. 3, lines 31-35). Bailey teaches the limitations of the instant claims. Hence, Bailey anticipates the claims.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references are considered cumulative to or less material than those discussed above.

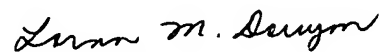
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lorna M. Douyon whose telephone number is (571) 272-1313.

The examiner can normally be reached on Mondays-Fridays from 8:00AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Lorna M. Douyon  
Primary Examiner  
Art Unit 1751